

IVC-2D: High Performance Smart Camera for Industrial Environment



Top-Performance to meet production demands of tomorrow: A powerful processor, optimized pixel processing in FPGA and advanced machine vision tools ensure that you never fail to inspect the object in time, even at the highest production speed.

Benefits with IVC-2D:

- Robust design for industrial environments
- Equipped with industrial lighting modules
- Multiple inspections in one camera
- Industrial solutions with a complete set of accessories
- Sub-pixel measurements

Examples:

- Cap position and angle measurement
- Fill level inspection
- Precision measurements and verification of tolerances
- Packaging and printing checked in one step
- Type identification by OCR, barcode and 2D code tools

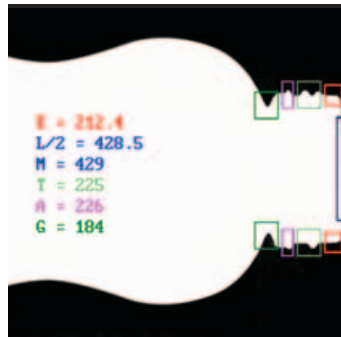
IVC-2D is a high performance smart camera for flexible automation solutions. Rapid prototyping is ensured by the user-friendly IVC Studio software, giving the user quick and easy access to more than 100 powerful image processing tools. Once configured the camera works in stand-alone mode, without the need for a PC.



► The flexible IVC-2D camera can easily inspect many features simultaneously - in this case cap position, fill level and label.



► IVC-2D can reach accuracy in the micrometer range using advanced sub-pixel measurement tools.



◀ Packaging and printing using OCR/OCV; The IVC-2D camera can not only check geometries, but simultaneously detect and read figures, letters, 2D codes and bar codes, e.g. sell-by dates for food or batch numbers on pharmaceutical packages. The camera system thus becomes a complete solution for inspecting a product's packaging and printing in a single pass.

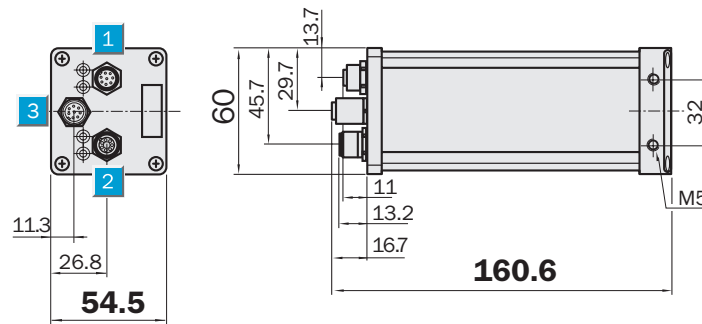
	Resolution
	640x480
	1024x768
Smart Cameras	

- Robust design for industrial environments
- Equipped with industrial lighting modules
- Multiple inspections in one camera
- Industrial solutions with a complete set of accessories
- Sub-pixel measurements



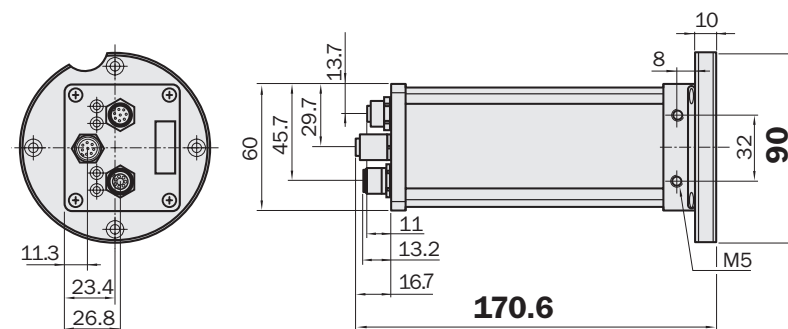
Dimensional drawing

Camera IVC-2D



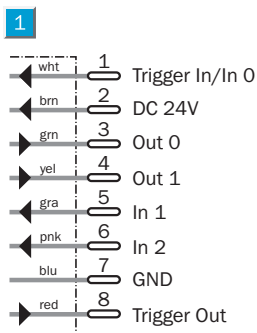
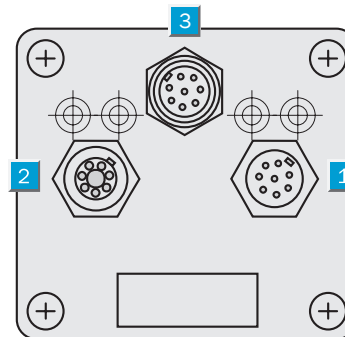
- 1 Power I/O: M12, 8-pin, male (Illumination trigger output)
- 2 Ethernet: M12, 4-pin, D-coded, female
- 3 RS 485 M12, 8-pin, female

Camera IVC-2D with adapter plate for ring light



Connection type

- 1 Power I/O: M12, 8-pin, male
- 2 Ethernet: M12, 4-pin, D-coded, female
- 3 RS 485: M12, 8-pin, female

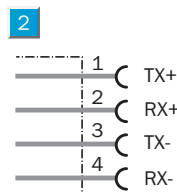


M12, 8-pin, female plug with cable, 2 m, for power and I/O

Order no. 6020633

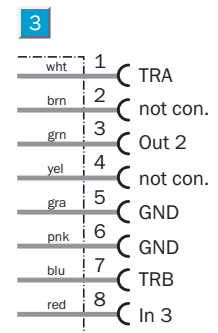
M12, 8-pin, female plug with cable, 5 m, for power and I/O

Order no. 6020993



M12, 4-pin, (D-coded) to RJ45 Ethernet cable, 3 m

Order no. 6029630



M12, 8-pin, male with 2 m cable for RS485 and secondary I/O

Order no. 6029330

M12, 8-pin, male with 5 m cable for RS485 and secondary I/O

Order no. 6029331

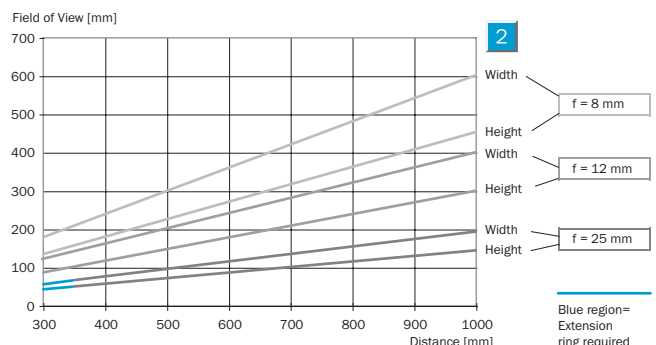
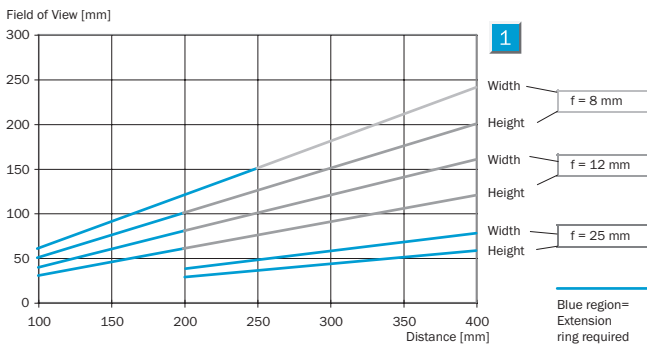
Technical data		IVC-2D	M1111 IVC-2D Standard	M1121 IVC-2D HiRes	M1112 IVC-2D Reader	M1122 IVC-2D HiRes Rdr	R1111					
Performance	800 MHz processor and FPGA											
	150 MHz processor and FPGA											
Memory	128 MB RAM 16 MB flash											
	64 MB RAM 16 MB flash											
Interface	10/100 MB Fast Ethernet TCP/IP, UDP/IP											
Serial interface	RS 485											
Digital I/O	4 program control inputs (1 trigger input)											
	3 program control output											
	Illumination trigger output											
Enclosure rating	IP 65 with hood											
Options	Stainless steel enclosure											
Dimensions (L x H x D)	161 x 55 x 60 mm											
Resolution	640 x 480											
	1024 x 768											
OCR/OCV												
2D codes/ Bar codes ¹⁾												
Imager	CCD, electronic shutter											
Frame rate	30 Fps											
	24 Fps											
Lens adapter	CS-mount and C-mount ²⁾											
Images size	1/3", 4.8 mm x 3.6 mm											
Ambient temperature	Operation: 0 °C ... 50 °C											
	Storage: -20 °C ... 70 °C											
Weight	Approx. 505 g											
Housing material	Aluminium, anodized											
	Connectors = Nickel plated brass											
	Front window of hood = PMMA											

¹⁾ For example: EAN-13, UPC-A, EAN-8, code 39, code 128, pharmacode, i2of5, code 32, DATAMATRIX

²⁾ For CS-mount an adaptor ring should be removed

IVC Studio PC application development tool. Min system req, 550 MHz CPU, 128 MB RAM, CD-ROM or DVD, Fast Ethernet, Win 2000/WinXP. Graphics driver support for OpenGL 1.3 or higher. IVC Studio in English and German

Diagrams



Field of views for a selection of SICK IVP lenses from

1 100 mm to 400 mm **2** 0.3 m to 1 m

Order information

Smart Cameras		Lenses		Lighting		Optional as accessories	
Type	Order no.	Type	Order no.	Type	Order no.	Type	Order no.
IVC-2DM1111	1027190	Lens, 8 mm focal length	5314041	Ring light for IVC-2D with 12 high power LEDs, white, for working distances from 100 to 300 mm	1027286	Mounting bracket	2032753
IVC-2D Standard		Lens, 12 mm focal length	5314042	Adapter plate for ring light 1027286	2033105	Hood for IP65	2032637
IVC-2DM1121	1028407	Lens, 25 mm focal length	5314043	T-splitter, M12, 8-pin for external light connection	6026503	Hood for IP65 with ICL110	2032968
IVC-2DM1112	1029135			M12-M12, 8-pin connector for external light	6026625	Extension ring	4041112
IVC-2D Reader							
IVC-2DM1122	1029136						
IVC-2D HiRes Rdr							
IVC-2DR1111	1040057						